

IN THE SPECIFICATION:

Please replace the paragraph beginning on line 20 of page 3 with the following paragraph:

Therefore, if the spectrum difference energy in the current voicing level decision band is higher than the threshold, the value of the voicing level in the current voicing level decision band is determined to be 0, which means an unvoiced band. Conversely, if the spectrum difference energy in the current voicing level decision band is lower than the threshold, the value of the voicing level in the current voicing level decision band is determined to be 1, which means a voiced band. Currently, the three harmonic bands are combined and set as one voicing level decision band to decrease the encoding bit rate, and the maximum number of voiced degree decision bands is limited to 12.

Please replace the paragraph beginning on line 26 of page 8 with the following paragraph:

Fig. 5 is a flow chart illustrating estimation of voiced/unvoiced information according to the preferred embodiment of the present invention. First, an input spectrum is obtained by Fourier transformation of a voice input signal in S31. Preferably, a fast Fourier transformation (FFT) algorithm or other suitable signal processing known to one of ordinary skill in the art ~~may~~ is used. Then, a synthetic spectrum is ~~obtained~~ calculated by using a fundamental frequency, harmonic parameters, and a window spectrum.

Please replace the paragraph beginning on line 3 of page 9 with the following paragraph:

When an input spectrum and a synthetic spectrum are obtained ~~in S33~~, each harmonic band is set as a voicing level decision band in S33. The first harmonic band is set as the first ($\ell=1$) voicing degree decision band, and the second harmonic band is set as the second ($\ell=2$) voicing level decision band. This way, each of the first ($\ell=1$) harmonic band through the last ($\ell=L$) harmonic band is set as a voicing level decision band. Here, the total number (L) of the harmonic bands is between 10 and 60, provided that pitch ranges 20 to 120 at 8 KHZ sampling.

Please replace the paragraph beginning on line 9 of page 9 with the following paragraph:

When each voicing level decision band is set ~~in S35~~, the spectrum difference calculation unit 40 obtains a difference energy between an input spectrum and a synthetic spectrum in the first ($\ell=1$) harmonic band in S35. The spectrum difference calculation unit 40 then divides the difference energy by an input spectrum energy in the current harmonic band to normalize the same, obtaining the first normalized spectrum difference energy E_{ℓ} .

Please replace the paragraph beginning on line 14 of page 9 with the following paragraph:

When the first normalized spectrum difference energy E_ℓ is obtained in ~~S37~~, the conventional process for calculating a threshold ξ_k , for deciding a voicing level in each harmonic band by using a spectrum energy distribution, a fundamental frequency, and a voiced/unvoiced information in the previous frame is omitted. In addition, the spectrum difference calculation unit 40 calculates a voicing level V_ℓ having a value between 0 and 1 using the first normalized spectrum difference energy E_ℓ in S37. That is, the voicing level V_ℓ of the first harmonic band is obtained by subtracting the first normalized spectrum difference energy E_ℓ from 1.